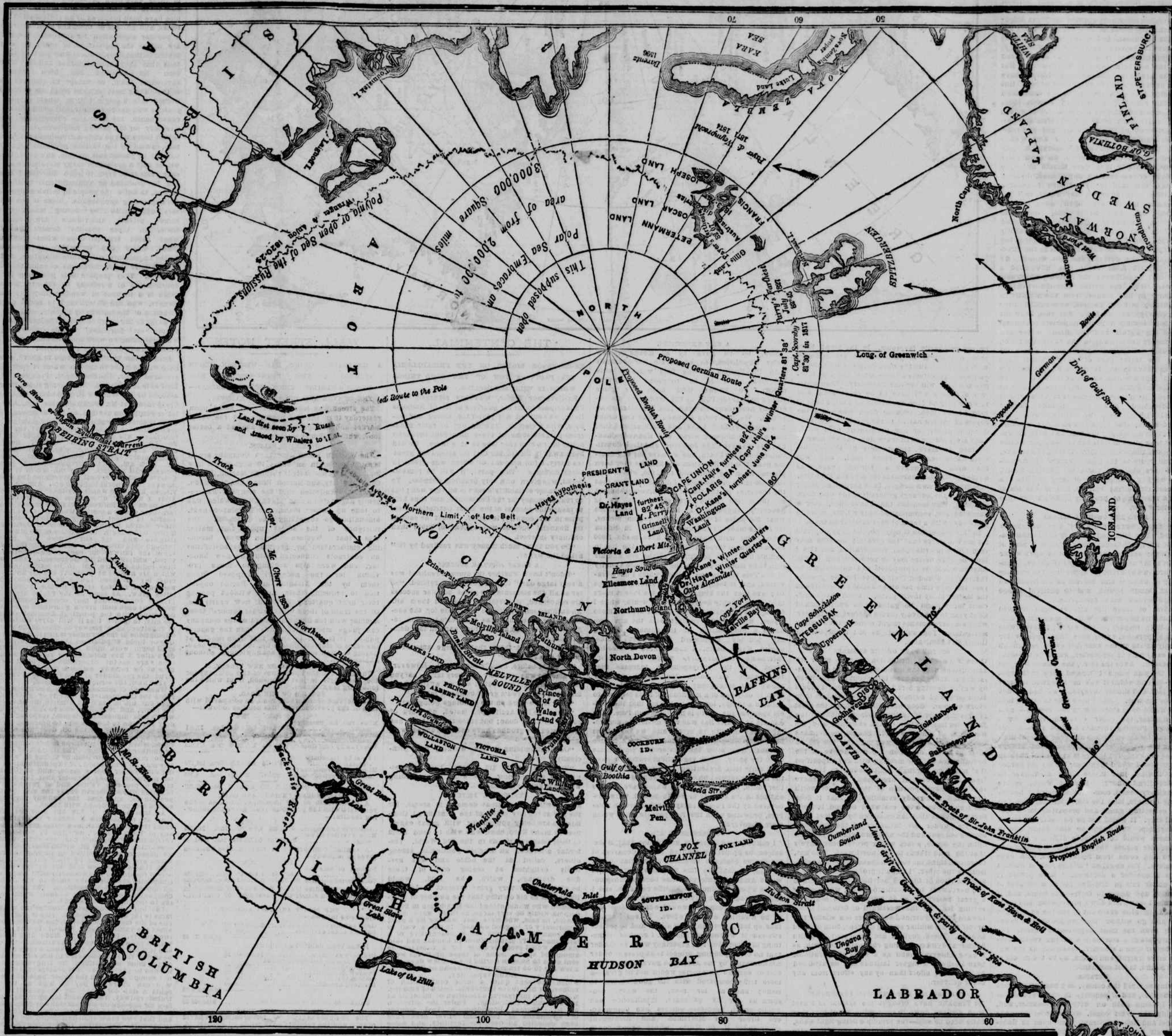


# THE ARCTIC REGIONS.

Circumpolar Chart Showing the Boundaries of the Arctic Ocean and the Proposed Lines of Approach to the North Pole.



## THE POLAR HIGHWAY.

A Review of the Approaches to the North Pole.

## THE AMERICAN ROUTE.

Its Claims Over All Others--The Kane, Hayes, Hall Expeditions.

## THE OPEN POLAR SEA.

A Plan of International Co-Operation.

## AN APPEAL TO CONGRESS.

Letter from Dr. I. I. Hayes, the Arctic Explorer.

NEW YORK, Feb. 22, 1875.

TO THE EDITOR OF THE HERALD:—  
In view of the interest which you have so long manifested in Arctic exploration, and of the encouragement you have recently given to the projected enterprises in that direction, I trust you will not regard it as inappropriate on my part if I should, through the columns of your paper, express some views with respect to the practicability of reaching the North Pole. It is understood that the English government are to fit out an expedition, with two well equipped vessels, each of some 500 tons burden, to try the Smith Sound route, which, after mature consideration, has at length been regarded by the English geographers as likely to prove the most available. This route has very properly been called the "American route," and, since I have had a good deal of experience in

exploring it, a brief account of discovery there may not be out of place.

Smith Sound is only a northerly continuation of Baffin's Bay. It was discovered by the famous navigator, Baffin, in 1616, during his remarkable circuit of that magnificent sheet of water, from which branch off, in its northern part, Wolstenholme, Smith, Jones and Lancaster Sounds, all more or less famous in later times in connection with Arctic exploration. Baffin made this voyage in the little brig *Discovery*, of fifty tons burden, and although Sir John Ross followed upon his track in 1818, and sighted the capes of Smith Sound, the sound itself was never entered until Captain Ingfield, of the British Navy, in 1852, sought it in the steamer *Isabella*, with the idea that Sir John Franklin, instead of going to the westward, through Lancaster Sound, in 1845, had followed the line of the Greenland coast and sought the Polar water by a due north course. Captain Ingfield came home to report that Smith Sound expanded into the Polar Basin, and in this view he was supported by the fact that very little ice was seen. The idea being seized upon by Dr. Kane, culminated, ultimately, in what became known as the Second Grinnell Expedition. The discoveries of that expedition for the first time made Smith Sound famous. Unlike Ingfield, Kane found the sound blocked with ice at its entrance, and being forced upon the Greenland shore was crowded into a harbor in latitude 78 deg. 37 min., and in, as it proved, an inconvenient and hazardous position. The vessel was never liberated, and, after passing two winters there, his party betook themselves to boats. After dragging them over the ice to the open water at the mouth of the sound, a distance of ninety miles, they then set out for the Danish colonies in Greenland. During his stay in winter harbor Dr. Kane and his party performed many sledge journeys in the spring, searching the shores of Greenland as far up as latitude 81 deg. north. It was my fortune to be a member of that expedition, and, with one of the ship's company, I made a dog-sledge journey across the sound to the north and west, reaching a land not hitherto known, and which was called Grinnell Land. This I traced to about latitude 80 deg., and then surveyed it on my return journey southward and westward, before recording the sound, until I connected it with the previous discoveries of Ingfield at Cape Sabine. During the homeward journey along that shore I found everywhere smooth ice, indicating beyond doubt that upon the setting in of winter there had been an open sheet of water all along the land as far up as the highest point that I reached, and this highest point was the entrance to an extension of

Smith Sound, which was called Kennedy Channel. This fact led me to believe that a strong southerly setting current through Smith Sound forced the ice down upon the Greenland coast, and left open water at the close of the thawing season on the opposite shore; and accordingly, upon my return home, I immediately advocated the fitting out of a new expedition.

THESE EXPLORATIONS, I may mention, proved that Ingfield was wrong; for, instead of expanding into the Polar Ocean, Smith Sound merely expanded into a broad sea which narrows again into Kennedy Channel, and is now known as Kane Basin.

Through the liberality of leading scientific societies of the country and of private individuals the expedition was organized in the spring of 1860. Upon reaching Smith Sound, however, I discovered a tongue of ice extending through the centre of the channel to the south and west, and having only a small skimmer I could not in the teeth of a gale bore this "pack" and reach the west coast. In the effort the schooner was so badly crippled that I was forced into winter harbor September 8, somewhat nearer the mouth of Smith Sound than that of Dr. Kane, and I was compelled, therefore, in my subsequent explorations with sledge over the frozen sea to traverse much the same course I had taken before. During the greater part of this toilsome march of sixty days the ice was very rough; but, as in the former case, when acting under the orders of Dr. Kane, I found a smooth belt of a single winter's freezing along the west coast, thus confirming my previous opinion and declaration as to the practicability of a passage, at least to Kennedy Channel, in that direction. Within Kennedy Channel the ice was more uniform, presenting alternately rough and smooth surfaces. The highest point attained on the ice was near lat. 82 deg., on land, 81 deg. 37 min., where I left my flag and record. This was, of course, in the spring, long before there was any general break up of the ice. I reached, however, open water, which stopped me, even at the early period of May 18. The ice in the channel was even then, when the mercury was about zero, very thin and rotten.

The proofs thus obtained increased the earnestness with which I advocated the route by Smith Sound, and in this advocacy I have been supported by the American Geographical Society, and especially by its eminent President, Chief Justice Charles P. Daly. The result was a general conviction that this was the most available channel by which the North Pole was to be reached, and finally, Congress making a moderate appropriation

to his original purpose, he intended to await an opportunity and push on the following year. Un-

happily, however, for the enterprise, after making a sledge journey to the north, he fell sick, and died almost before winter had fairly set in. Whether it was from prudential motives or a lack of opportunity we cannot undertake to say, but it is an unfortunate fact that when the *Polaris* was liberated the following summer she was headed south, and when near the entrance to Smith Sound, was nipped by the ice, and, being ill fitted for such encounters, was soon a total wreck.

THE POLARIS EXPEDITION.  
I have thus gone over the ground of the opening of this channel at some length, in order to arrive at a just estimate of the chances of success beyond that which was achieved by the *Polaris* Expedition. All Arctic navigators well know that the ice is liable to obstruct the sea in almost any quarter, and can judge as to whether the obstacles encountered by the *Polaris* Expedition in Robeson Channel, which is but a continuation of Kennedy Channel, was or was not likely to prove a permanent embarrassment. My own view of the matter may be plainly stated in a few words. I think, as I always have thought since my first experience of 1854, that through Smith Sound and the channel beyond there is a practicable opening leading into the Polar Basin. The current sets strongly south, as is proven by the drift of the ice, and it needs only, in my judgment, patience, care and sufficient means to accomplish a passage in that direction. True, it cannot be done without risk, nor yet without the probable embarrassment of drifting ice. But ice in almost all Arctic waters appears and disappears with remarkable rapidity in obedience to the direction of the winds and the currents; and a sea which is open to-day may be covered with ice to-morrow. Practically I believe the *Polaris* was on the margin of a sea, or rather ocean, which, in consequence of its vast extent, is never completely frozen over, and although covered here and there with drifting masses of ice, which gather under the influence of the wind, is yet navigable. From personal observation during two journeys I know that Kennedy Channel closes very late in the autumn, and opens early in the spring; for even in May, as before stated, I found ice that was exceedingly difficult to traverse with dog sledges, and on one occasion, before reaching absolutely open water, I was compelled to take to the shore and follow the land ice. At this early period I saw, from my last point of observation, open water. This was proved by Captain Hall's experience to be an expansion of Kennedy Channel, but it was open none the less.

Whether this was due to the rapidity of the current or to the proximity of an immense body of water beyond I cannot pretend to say. But I have no doubt that both causes were operating. That this channel connects with the ocean to the north can scarcely be doubted, for the reports from the *Polaris* Expedition show that the ideas set from that quarter. In view of the conditions observed from the three expeditions of Kane, Hall and myself in that channel it can hardly be supposed that the extension of Smith Sound to the northward can be very far beyond the point attained by Captain Hall, even although land was seen due north beyond my last observed point of Cape Union. I am convinced that, could the obstructing pack which embarrassed the *Polaris* in that channel have been penetrated, the North Pole could have been reached by steam, for I do not doubt the existence of a permanent open sea about the Pole. I cannot, indeed, imagine any circumstances under which so large a watery area could become congealed. It is true that we have no positively clear proof that there is any Arctic Ocean at all. Nor have we any proof that the continent of Greenland does not, as the eminent geographer, Dr. Petermann, has conjectured, extend across the Pole toward Behring Strait. But this, as it seems to me, is so far in antagonism with all the reasonable analogies of physical geography as scarcely to admit of serious discussion.

AN EXAMINATION OF THE MAP  
will show the immense extent of Arctic coast line, bathed by the circumpolar waters, which forms an almost continuous line of land, with but comparatively narrow channels separating the several bodies, and practically enclosing an area more than 2,000 miles in diameter. There are no broad openings into it, and, such as they are, they have hitherto been found blocked with ice to such an extent that the passage of vessels has been prevented. I believe that Greenland has been traced nearly, if not quite, to its northern extremity. I believe the same, too, of Grinnell Land. To me it is impossible to conceive of an area such as that of the Arctic Ocean being covered with ice. Large bodies of water do not freeze. Even Hudson's Bay is not closed in the winter nor yet Hudson's Bay, and at a temperature of forty degrees below zero I have seen waves dashing upon the ice-girt shore and creating without a single piece of drifting ice in sight. Water will not freeze unless sheltered and protected by the land, and hence, after no inconsiderable experience, I have arrived at the conclusion that, as the Arctic Ocean is almost entirely girdled by land, it is in like manner, girdled by a changing, land-enclosed but

to his original purpose, he intended to await an opportunity and push on the following year. Un-

happily, however, for the enterprise, after making a sledge journey to the north, he fell sick, and died almost before winter had fairly set in. Whether it was from prudential motives or a lack of opportunity we cannot undertake to say, but it is an unfortunate fact that when the *Polaris* was liberated the following summer she was headed south, and when near the entrance to Smith Sound, was nipped by the ice, and, being ill fitted for such encounters, was soon a total wreck.